

REMARKS

Specification Amendments

The Applicant has amended paragraph [0030] of the specification to correct an obvious error. The term “, zinc” was left out of the list of example compounds provided. The error is obvious, and the correction adds no new matter as the only way of interpreting the term “zinc di-(octyl) dithiophosphate di-(2-ethylhexyl) dithiophosphate” is to realize that “, zinc” is missing in the middle, and the term is properly read as “zinc di-(octyl) dithiophosphate” and “zinc di-(2-ethylhexyl) dithiophosphate”. Applicant submits that this correction is allowable and adds no new matter.

No other elements of the specification have been changed.

Claim Amendments

The Applicant has amended claim 18 to specify:

- (i) the dispersant is present at about 0.2 wt % to about 1 wt % of the composition;
- (ii) the primary zinc hydrocarbyl dithiophosphate is present at about 0.4 wt % to about 2 wt % of the composition;
- (iii) the polyol is pentaerythritol;
- (iv) polyalkenyl-substituted acylating agent is polyisobutenyl succinic anhydride.

Support for the specified ranges of the dispersant and the primary zinc hydrocarbyl dithiophosphate is located in the application as filed in paragraphs [0026] and [0031] respectively. These ranges were also specified in claim 36 as presented in the previous office action.

Support for pentaerythritol is provided in paragraph [0023] and examples 1 to 3 as disclosed in paragraphs [0070] to [0072].

Support for polyisobutenyl succinic anhydride is provided by paragraphs [0018] to [0020] and examples 1 to 3 as disclosed in paragraphs [0070] to [0072].

Claim 24 has been amended to be dependent on claim 18.

Claim 28 has been amended to correct a typo, a missing comma and missing “zinc” have been added to the claim. Support for these corrections is found in paragraphs [0027] to [0031], and specifically paragraph [0030] of the specification.

In view of the amendments described above, claims 23, 25, 26 and 36 have been cancelled.

Support for specifying a primary zinc hydrocarbyl dithiophosphate is located in the application as filed in paragraph [0028].

Accordingly it is submitted that the amendments as presented are fully supported by the application as filed and do not add subject-matter.

No other elements of the claims have been amended.

Remarks

The Examiner has rejected claims 18-19, 21-28 and 36 under 35 U.S.C. 103(a) as being unpatentable over LeSuer (US 3,708,522) in view of Stewart (US 4,244,279). The Examiner has also rejected claims 18-19, 21-31 and 33-36 under 103(a) as being unpatentable over LeSuer in view of Stewart and further in view of Emert (US 5,498,809). The Examiner has also rejected claim 32 under 35 U.S.C. 103(a) as being unpatentable over LeSuer (US 3,708,522) in view of Stewart (US 4,244,279) and further in view of Byford (US 3,697,427).

In view of the amendments above and remarks below in relation to the scope of the present claims, it is submitted that the claim rejections under 35 U.S.C. 103(a) are obviated. Accordingly, it is submitted that the presently amended claims are in condition for allowance.

The Examiner noted in the office action that the claims previously submitted are broader than the compositions that are demonstrated to work. In particular the Examiner noted the breadth of the dispersant and zinc dithiophosphates were too broad. Furthermore the Examiner noted that the dispersant can be the reaction product of any polyalkenyl-substituted acylating agent with any polyol.

With regard to the description of the dispersant, it is submitted that the dispersant presently claimed is commensurate in scope with what has been demonstrated to work by the examples presented in the application as filed or during comparative testing. Specifically the dispersant is a substantially nitrogen free dispersant derived from the reaction

product of polyisobutenyl succinic anhydride and pentaerythritol. Accordingly, the Examiner is requested to find the description of the dispersant claimed to be commensurate in scope with what the applicant has demonstrated to work in the invention.

The dispersant is also shown to work over the entire range of the claimed. For example the application as filed discloses 1 wt % of the dispersant in example 2 (see paragraph [0071], and the data presented by Betsy Butke in declaration submitted 11 October 2007 has 0.33 wt % dispersant (including diluent oil). The data presented in the declaration submitted with this response contains 0.2 wt % of dispersant (free of diluent oil). Accordingly, it is submitted that the dispersant claimed is demonstrated to work over the entire claimed range. Hence the claimed range is commensurate in scope with what is demonstrated to work.

The Applicant further submits that the data presented in the declaration by Betsy Butke provides sufficient evidence that the presently amended claims are commensurate in scope with what has been demonstrated to work. The declaration provides experimental data to indicate that 0.6 wt % or 1 wt % or 2 wt % of primary zinc dialkyldithiophosphate all provide performance in a lubricant as presently claimed.

Thus considering to the data already presented in the application as filed, the declaration submitted on October 13, 2007 and the declaration presented along with this response, it has been demonstrated that lubricants with the claimed dispersant present at 0.2 weight percent to 1 weight percent; and primary zinc dialkyldithiophosphate present at 0.6 weight percent to 2 weight percent work.

With regard to the lower end of the claimed range for primary zinc dialkyldithiophosphate i.e., 0.4 to 0.6 weight percent a person of ordinary skill in the art would have the expectation that this portion of the range also works. As noted in the declaration submitted along with this response Betsy Butke has indicated that a lubricant having 0.2 wt % of the primary zinc dialkyldithiophosphate may not be considered sufficient to meet all the requirements. However, by adding 0.6 wt % of primary zinc dialkyldithiophosphate sufficient performance is easily attained. Thus about 0.4 wt % of primary zinc dialkyldithiophosphate appears to be the crossover point. Accordingly, the data provided by the declaration demonstrates that the presently claimed invention works across the entire scope

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of the claimed ranges for both the type of dispersant, the amounts of the dispersant, and the amounts of the primary zinc dialkyldithiophosphate.

In view of the remarks above, it is submitted that the data presented during prosecution is sufficient to establish that the presently amended claims are commensurate in scope with all of the technical features of the claimed invention. Accordingly, the present invention is unobvious, and the Examiner is respectfully requested to withdraw all remaining 35 U.S.C. 103(a) rejections.

Conclusion

For the foregoing reasons it is submitted that the present claims are in condition for allowance. The foregoing remarks are believed to be a full and complete response to the outstanding office action. Therefore an early and favorable reconsideration is respectfully requested. If the Examiner believes that only minor issues remain to be resolved, a telephone call to the undersigned is suggested.

The Commissioner is authorized to charge the required fees for filing this response in time to meet the 6 month deadline of the office action from The Lubrizol Corporation Deposit Account No. 12-2275.

Respectfully submitted,

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